(7) For each leakage pathway through which $CO_2$ emissions occurred, report:

(i) A numerical identifier for the leakage pathway.

(ii) The $CO_2$ (metric tons) emitted through that pathway in the reporting year.

(8) Annual $CO_2$ mass emitted (metric tons) by surface leakage in the reporting year as calculated by Equation RR–10 of this subpart.

(9) Annual $CO_2$ (metric tons) sequestered in subsurface geologic formations in the reporting year as calculated by Equation RR–11 or RR–12 of this subpart.

(10) Cumulative mass of $CO_2$ (metric tons) reported as sequestered in subsurface geologic formations in all years since the well or group of wells became subject to reporting requirements under this subpart.

(11) Date that the most recent MRV plan was approved by EPA and the MRV plan approval number that was issued by EPA.

(12) An annual monitoring report that contains the following components:

(i) A narrative history of the monitoring efforts conducted over the previous calendar year, including a listing of all monitoring equipment that was operated, its period of operation, and any relevant tests or surveys that were conducted.

(ii) A description of any changes to the monitoring program that you concluded were not material changes warranting submission of a revised MRV plan under § 98.448(d).

(iii) A narrative history of any monitoring anomalies that were detected in the previous calendar year and how they were investigated and resolved.

(iv) A description of any surface leakages of $CO_2$, including a discussion of all methodologies and technologies involved in detecting and quantifying the surface leakages and any assumptions and uncertainties involved in calculating the amount of $CO_2$ emitted.

(13) If a well is permitted under the Underground Injection Control program, for each injection well, report:

(i) The well identification number used for the Underground Injection Control permit.

(ii) The Underground Injection Control permit class.

(14) If an offshore well is not subject to the Safe Drinking Water Act, for each injection well, report any well identification number and any identification number used for the legal instrument authorizing geologic sequestration.

[75 FR 75078, Dec. 1, 2010, as amended at 76 FR 73906, Nov. 29, 2011; 78 FR 71979, Nov. 29, 2013]

### § 98.447 Records that must be retained.

(a) You must follow the record retention requirements specified by § 98.3(g). In addition to the records required by § 98.3(g), you must retain the records specified in paragraphs (a)(1) through (7) of this section, as applicable. You must retain all required records for at least 3 years.

(1) Quarterly records of $CO_2$ received, including mass flow rate of contents of containers (mass or volumetric) at standard conditions and operating conditions, operating temperature and pressure, and concentration of these streams.

(2) Quarterly records of produced $CO_2$, including mass flow or volumetric flow at standard conditions and operating conditions, operating temperature and pressure, and concentration of these streams.

(3) Quarterly records of injected $CO_2$ including mass flow or volumetric flow at standard conditions and operating conditions, operating temperature and pressure, and concentration of these streams.

(4) Annual records of information used to calculate the $CO_2$ emitted by surface leakage from leakage pathways.

(5) Annual records of information used to calculate the $CO_2$ emitted from equipment leaks and vented emissions of $CO_2$ from equipment located on the surface between the flow meter used to measure injection quantity and the injection wellhead.

(6) Annual records of information used to calculate the $CO_2$ emitted from equipment leaks and vented emissions of $CO_2$ from equipment located on the

surface between the production wellhead and the flow meter used to measure production quantity.

(7) Any other records as specified for retention in your EPA-approved MRV plan.

(b) You must complete your monitoring plans, as described in §98.3(g)(5), by April 1 of the year you begin collecting data.

[75 FR 75078, Dec. 1, 2010, as amended at 76 FR 73906, Nov. 29, 2011]

### § 98.448 Geologic sequestration monitoring, reporting, and verification (MRV) plan.

(a) *Contents of MRV plan.* You must develop and submit to the Administrator a proposed MRV plan for monitoring, reporting, and verification of geologic sequestration at your facility. Your proposed MRV plan must contain the following components:

(1) Delineation of the maximum monitoring area and the active monitoring areas. The first period for your active monitoring area will begin from the date determined in your MRV plan through the date at which the plan calls for the first expansion of the monitoring area. The length of each monitoring period can be any time interval chosen by you that is greater than 1 year.

(2) Identification of potential surface leakage pathways for $CO_2$ in the maximum monitoring area and the likelihood, magnitude, and timing, of surface leakage of $CO_2$ through these pathways.

(3) A strategy for detecting and quantifying any surface leakage of $CO_2$.

(4) A strategy for establishing the expected baselines for monitoring $CO_2$ surface leakage.

(5) A summary of the considerations you intend to use to calculate site-specific variables for the mass balance equation. This includes, but is not limited to, considerations for calculating $CO_2$ emissions from equipment leaks and vented emissions of $CO_2$ between the injection flow meter and injection well and/or the production flow meter and production well, and considerations for calculating $CO_2$ in produced fluids.

(6) If a well is permitted under the Underground Injection Control program, for each injection well, report the well identification number used for the Underground Injection Control permit and the Underground Injection Control permit class. If the well is not yet permitted, and you have applied for an Underground Injection Control permit, report the well identification numbers in the permit application. If an offshore well is not subject to the Safe Drinking Water Act, for each injection well, report any well identification number and any identification number used for the legal instrument authorizing geologic sequestration. If you are submitting your Underground Injection Control permit application as part of your proposed MRV plan, you must notify EPA when the permit has been approved. If you are an offshore facility not subject to the Safe Drinking Water Act, and are submitting your application for the legal instrument authorizing geologic sequestration as part of your proposed MRV plan, you must notify EPA when the legal instrument authorizing geologic sequestration has been approved.

(7) Proposed date to begin collecting data for calculating total amount sequestered according to equation RR–11 or RR–12 of this subpart. This date must be after expected baselines as required by paragraph (a)(4) of this section are established and the leakage detection and quantification strategy as required by paragraph (a)(3) of this section is implemented in the initial AMA.

(b) *Timing.* You must submit a proposed MRV plan to EPA according to the following schedule:

(1) You must submit a proposed MRV plan to EPA by June 30, 2011 if you were issued a final Underground Injection Control permit authorizing the injection of $CO_2$ into the subsurface on or before December 31, 2010. You will be allowed to request one extension of up to an additional 180 days in which to submit your proposed MRV plan.

(2) You must submit a proposed MRV plan to EPA within 180 days of receiving a final Underground Injection Control permit authorizing the injection of $CO_2$ into the subsurface. If your facility is an offshore facility not subject to the Safe Drinking Water Act, you must submit a proposed MRV plan to EPA